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| 10/677,472      | 10/02/2003  | Richard D. Dettinger | ROC920030173US1     | 8488             |

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| EXAMINER |
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MORRISON, JAY A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2168

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/677,472

Applicant(s)

DETTINGER ET AL.

Examiner

Jay A. Morrison

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____                                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/2/03</u> .                                                             | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-45 are pending.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1,2-3,6,10,12,16-17,19-20,22-23,26,30-35,37-39,42,45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per Claims 1,12,19,33, it is not clear from the claim language to what extent the computer will "attempt to produce" their respective queries.

As per Claim 42, it is not clear from the claim language to what extent the computer will make "an effort to" satisfy the criterion.

Regarding claim 26, the phrase "if" or "may be" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

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Claim 2 recites the limitation "the element" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the at least one element".

Claim 2 recites the limitation "the value" in lines 1 and 3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the at least one value".

Claim 3 recites the limitation "the element" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the at least one element".

Claim 6 recites the limitation "the element" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the at least one element".

Claim 10 recites the limitation "the associated result set criterion" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the result set criterion".

Claim 16 recites the limitation "the value" in lines 1,3,4, and 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the specified value".

Claim 16 recites the limitation "the query" in line 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 17 recites the limitation "manipulating the value " in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "manipulating the specified value".

Claim 17 recites the limitation "the query" in lines 3,4 and 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 20 recites the limitation "the data" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the plurality of physical data entities".

Claim 22 recites the limitation "the modified query" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the modified abstract query".

Claim 23 recites the limitation "the value" in lines 3,4 and 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the user-specified value".

Claim 30 recites the limitation "the result criterion" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the user-specified results criterion".

Claim 31 recites the limitation "the result criterion" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the user-specified results criterion".

Claim 32 recites the limitation "the result criterion" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the user-specified results criterion".

Claim 33 recites the limitation "the data" in line 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 34 recites the limitation "the element" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 35 recites the limitation "the modified query" in line 2. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the modified abstract query".

Claim 37 recites the limitation "the element" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 37 recites the limitation "the value" in lines 3,4 and 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the user-specified value".

Claim 38 recites the limitation "the element" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 38 recites the limitation "the query" in lines 3,4 and 5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 39 recites the limitation "the element" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the abstract query".

Claim 42 recites the limitation "the result size criterion" in line 10. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the desired result size criterion".

Claim 45 recites the limitation "the result size criterion" in line 4-5. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination the Office will assume the Applicant meant "the desired result size criterion".

Note: the art rejections are made given the best understanding of the Office given Applicants Claims, which are difficult to interpret because of the abundance of assumptions the Office had to make due to their drafting.

#### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-45 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-45 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result. To perform a physical transformation, the claimed invention must transform an article or physical object into a different state or thing. Transformation of data is not a physical transformation. A useful, concrete, and tangible result must be either specifically recited in the claim or flow inherently therefrom. To be useful the claimed invention must establish a specific, substantial, and credible utility. To be concrete the claimed invention must be able to produce the same results given the same initial starting conditions. To be tangible the claimed invention must produce a practical application or real world result. In this case the claims fail to perform a physical transformation because the claims are directed to operating on data. The claims are useful and concrete, but they fail to produce a tangible result because nothing is produced which is stored in a recordable medium or in some concrete way returned to a user.

As per claim 33-41, this claim clearly recites a "machine readable medium", which may comprise "signal-bearing media". However these data signals are not tangible, and cannot tangibly embody a computer program or process since a computer cannot understand/realize (i.e. execute) the computer program or process when embodied on the data signal. Computer program or processes are only realized within the computer when stored in a memory or storage element. Therefore, a data signal does not meet the "useful, concrete, and tangible" requirement as set forth in *State*

*Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02, and hence claims 33-45 are non-statutory under 35 U.S.C. 101.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Chu (Patent Number 5,956,707).

As per claim 1, Chu teaches

A computer-implemented method of using a logical model to query physical fields of physical data entities, comprising: (see abstract and background)

providing a logical model to logically describe the physical fields, the logical model comprising logical fields corresponding to respective physical fields; (column 4, lines 36-43)

and providing a runtime component configured to change at least one element of an abstract query in an attempt to produce a modified abstract query which, when executed, returns results satisfying a result set criterion; (relaxes, column 4, lines 36-43)

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wherein the abstract query is defined with respect to at least one logical field of the logical model and wherein at least one value is specified for the at least one logical field. (column 4, lines 36-43)

As per claim 2, Chu teaches

the element is the value and further comprising changing, by the runtime component, the at least one value by increasing or decreasing the value. (column 4, lines 44-53)

As per claim 3, Chu teaches

changing, by the runtime component, the at least one element by removing the element from the abstract query. (reject, column 6, lines 11-12)

As per claim 4, Chu teaches

changing, by the runtime component, the at least one element with respect to a weight assigned to the element, the weight indicating a relative priority of changing the element relative to other elements in the abstract query. (relaxation order, column 6, lines 6-8)

As per claim 5, Chu teaches

the at least one logical field of the logical model has an associated element modification parameter defining a parameter for changing, by the runtime component, the at least one element. (relaxation level, column 6, lines 10-11)

As per claim 6, Chu teaches

the at least one logical field of the logical model has an associated element modification attribute indicating that the element specified in the abstract query for the at least one logical field may be modified by the runtime component. (relaxation level, column 6, lines 10-11)

As per claim 7, Chu teaches

the at least one element is user-defined. (column 2, line 66 through column 3, line 10)

As per claim 8, Chu teaches

the abstract query, including the result set criterion, is user-defined. (column 2, line 66 through column 3, line 10)

As per claim 9, Chu teaches

the physical data entities comprise a plurality of tables in a database. (column 3, lines 3-10)

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As per claim 10, Chu teaches  
the associated result set criterion is part of the abstract query. (column 4, lines 19-26)

As per claim 11, Chu teaches  
transforming, by the runtime component, and with reference to the logical model, the abstract query into a form consistent with the physical data entities. (column 4, lines 19-26)

As per claim 12, Chu teaches  
A computer-implemented method of returning a desired result set for a query, comprising: (see abstract and background)  
providing a logical model to logically describe physical fields of physical data entities, the logical model comprising logical fields corresponding to respective physical fields and each having an associated modification parameter; (column 4, lines 36-43)  
receiving an abstract query comprising a result set criterion and selection criterion comprising at least one of the logical fields of the logical model; (column 2, line 66 through column 3, line 10)  
and manipulating the abstract query in an attempt to produce a modified abstract query which, when executed, returns results satisfying the result set criterion; (column 4, lines 44-62)

wherein the manipulating is, at least in part, defined by the modification parameter associated with the at least one of the logical fields of the selection criterion.  
(column 4, lines 44-62)

As per claim 13, Chu teaches  
iteratively performing the manipulating until the results are returned satisfying the result set criterion. (repeated, column 4, lines 53-62)

As per claim 14, Chu teaches  
the result set criterion comprises a result set size specification. (at least, column 6, lines 13-14)

As per claim 15, Chu teaches  
the selection criterion comprises a specified value for the at least one of the logical fields of the selection criterion and wherein manipulating the abstract query comprises manipulating the specified value. (column 4, lines 44-62)

As per claim 16, Chu teaches  
manipulating the value comprises at least one of: increasing the value;  
decreasing the value; and removing the value from the query. (column 4, lines 44-53)

As per claim 17, Chu teaches

manipulating the value comprises at least one of: removing a condition from the query; adding a condition to the query; and changing a condition with the query.

(column 4, lines 44-62)

As per claim 18, Chu teaches

manipulating the abstract query is done with respect to a weight assigned to an element of the abstract query, the weight indicating a relative priority of changing the element relative to other elements in the abstract query. (relaxation order, column 6, lines 6-8)

As per claim 19, Chu teaches

A computer-implemented method of building queries, comprising: (see abstract and background)

providing a logical model to logically describe physical fields of a plurality of physical data entities, the logical model comprising logical fields corresponding to respective physical fields; (column 4, lines 36-43)

receiving an abstract query defined with respect to at least one logical field of the logical model and comprising a user-specified value for the at least one logical field and a result set criterion specifying at least a size of a desired result set; (column 2, line 66 through column 3, line 5)

and programmatically manipulating an element of the abstract query in an attempt to produce a modified abstract query which, when executed, returns results satisfying the result set criterion. (column 4, lines 53-62)

As per claim 20, Chu teaches  
transforming, with reference to the logical model, the modified abstract query into a form consistent with the data. (column 3, lines 17-31)

As per claim 21, Chu teaches  
the at least one logical field has an associated value modification parameter defined in the logical model and wherein the manipulating comprises manipulating the user-specified value in a manner limited by the associated value modification parameter. (relaxation level, column 6, lines 10-11)

As per claim 22, Chu teaches  
the manipulating is performed iteratively until producing the modified query which, when executed, returns results satisfying the result set criterion. (repeated, column 4, lines 53-62)

As per claim 23, Chu teaches

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manipulating the element comprises at least one of: increasing the value; decreasing the value; and removing the value from the abstract query. (column 4, lines 44-53)

As per claim 24, Chu teaches

manipulating the element comprises at least one of: removing a condition from the abstract query; adding a condition to the abstract query; and changing a condition with the abstract query. (column 4, lines 44-62)

As per claim 25, Chu teaches

manipulating the element is done with respect to a weight assigned to the element, the weight indicating a relative priority of changing the element relative to other elements in the abstract query. (relaxation order, column 6, lines 6-8)

As per claim 26, Chu teaches

A computer-implemented method for returning a specified result size set for a query, comprising: (see abstract and background)

(a) receiving a query comprising at least one condition, an associated value for the condition and a user-specified results criterion; (b) changing a first element of the query to produce a modified query; (c) running the modified query to produce a result set; (d) if the result set does not satisfy the user-specified results criterion, changing one of the first element and a second element to produce a different modified query; and (e)

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running the different modified query to produce a different result set. (column 4, lines 53-62)

As per claim 27, Chu teaches

changing either of the first element and the second element comprises at least one of: increasing the associated value; decreasing the associated value; and removing the associated value from the query. (column 4, lines 44-53)

As per claim 28, Chu teaches

changing either of the first element and the second element comprises at least one of: adding a condition to the query; removing the at least one condition from the query; and changing the at least one condition with the query. (column 4, lines 44-62)

As per claim 29, Chu teaches

changing either of the first element and the second element is done with respect to a weight assigned to the element, the weight indicating a relative priority of changing the element relative to other elements in the abstract query. (relaxation order, column 6, lines 6-8)

As per claim 30, Chu teaches

repeating (d) and (e) until the result set satisfies the result criterion. (column 4, lines 53-62)

As per claim 31, Chu teaches

the result criterion is a result set size criterion. (at least, column 6, lines 13-14)

As per claim 32, Chu teaches

the result criterion specifies a number of queries to be generated by changing the first or second element, wherein each generated query produces a result set size specified by the result criterion. (column 4, lines 44-62)

As per claim 33, Chu teaches

A computer readable medium containing a program which, when executed, performs an operation with respect to abstract queries and a logical model comprising a plurality of logical field definitions mapping to physical fields of physical entities of the data, the operation comprising: (see abstract and background)

receiving an abstract query defined with respect to at least one logical field of the logical model and comprising (i) a user-specified value for the at least one logical field (column 3, lines 17-31)

and (ii) a result set criterion specifying at least a size of a desired result set; (at least, column 6, lines 13-14)

and manipulating the abstract query in an attempt to produce a modified abstract query which, when executed, returns results satisfying the result set criterion. (column 4, lines 53-62)

As per claim 34, Chu teaches

the abstract query comprises a limitation parameter limiting the manipulating of the element. (WITHIN, column 5, lines 45-55)

As per claim 35, Chu teaches

the manipulating is performed iteratively until producing the modified query which, when executed, returns results satisfying the result set criterion. (column 4, lines 53-62)

As per claim 36, Chu teaches

the at least one logical field has an associated element modification parameter defined in the logical model and wherein the manipulating is limited by the associated element modification parameter. (WITHIN, column 5, lines 45-55)

As per claim 37, Chu teaches

manipulating the element comprises at least one of: increasing the value; decreasing the value; and removing the value from the query. (column 4, lines 44-53)

As per claim 38, Chu teaches

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manipulating the element comprises at least one of: removing a condition from the query; adding a condition to the query; and changing a condition with the query.

(column 4, lines 44-53)

As per claim 39, Chu teaches

the manipulating is performed with respect to a weight assigned to the element, the weight indicating a relative priority of manipulating the element relative to other elements in the abstract query. (relaxation order, column 6, lines 6-8)

As per claim 40, Chu teaches

the physical data entities comprise a plurality of tables in a database. (column 3, lines 3-10)

As per claim 41, Chu teaches

transforming, with reference to the logical model, the modified abstract query into a form consistent with the data. (column 4, lines 19-26)

As per claim 42, Chu teaches

A computer system, comprising memory and at least one processor, and further comprising: (see abstract and background)

a logical model comprising a plurality of logical field definitions mapping to physical fields of physical entities of data, whereby the logical model provides a logical view of the data; (column 4, lines 36-43)

and a runtime component configured to at least (i) receive an abstract query comprising at least one condition with a reference to at least one of the logical field definitions, a value for the at least one logical field and at least one user-selected result size criterion specifying a desired result set size to be returned; (column 4, lines 44-62)

and (ii) change an element of the abstract query in an effort to satisfy the result size criterion. (column 4, lines 44-62)

As per claim 43, Chu teaches  
the at least one of the logical field definitions comprises an attribute indicating that the element may be changed. (column 6, lines 5-16)

As per claim 44, Chu teaches  
the abstract query further comprises a limitation on an extent of permitted change to the element. (WITHIN, column 5, lines 45-55)

As per claim 45, Chu teaches  
the element is a value and wherein the abstract query further comprises a plurality of values, each for a different logical field definitions, and wherein the runtime component is configured to change each of the values to produce different permutations

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of the abstract query in an effort to satisfy the result size criterion. (column 4, lines 44-62)

### ***Conclusion***

The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jay Morrison  
TC2100

A handwritten signature in dark ink, appearing to be 'Debbie Le', written over a horizontal line.

Debbie Le  
TC2100

7/6/06